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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,262	06/27/2001	TeckHock Ng	S01.12-0714/STL 9766	1862

7590 01/21/2005

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EXAMINER

LE, DIEU MINH T

ART UNIT	PAPER NUMBER
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2114

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/893,262

Applicant(s)

NG ET AL.

Examiner

Dieu-Minh Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 4 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. This Office Action is in response to the amendment filed September 27, 2004 in application 09/893,262.

2. Claims 1-20 are again presented for examination.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3, 5-13, and 15-20 are again rejected under 35 U.S.C. § 103(a) as being unpatentable over Robinson et al. (US Patent 4,434,487 hereafter referred to as Robinson) in view of Shin (US Patent 6,101,619).

As per claims 1-3, 5-13, and 15-20, see the previous office action paper #4, mailed on 06/29/2004 for the teaching of Robinson and Shin, as well as the motivation and reason for combined.

Applicant asserts that Robinson and Shin failed to teach or suggest the following:

- merging storage location from the selected copy with replacement storage location defining the complete copy;

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Note: Applicants amended the claims by replaced sectors with storage locations. However, sectors are storage locations [see Specification, page 3, Summary of the Invention].

Examiner respectfully transverses Applicant's argument as follows:

First, Examiner would like to bring Applicant attention to both Robinson's data processing system having capability of replacement data block via **multiple copies of replacement blocks** [abstract, fig. 4C, col. 2, lines 51 through col. 3, lines 20] and Shin's method for improving access performance on track with reallocation sector in a hard disk drive [abstract, fig. 7, col. 1, lines 19-22]. Robinson and Shin's capabilities clearly teach the Applicant's invention.

Second, "the merging storage location from the selected copy with replacement location" limitation is about "**replacement data**" capability. And both Robinson and Shin clearly illustrated in its invention.

Third, it is not true that the combination of Robinson and Shin failed to teach "merging storage location from the selected

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copy with replacement storage location defining the complete copy" as claimed by Applicant.

Rubinson clearly demonstrated the capabilities of:

- determining bad data block and replacing bad data block with plurality copies of replacement blocks [col. 2, lines 51-67 and col. 3, lines 1-5];
- replacing defective sector [storage location] in set of sector with spare sectors [col. 1, lines 15-18];
- Error Correcting Code (ECC) and Error Detecting Code (EDC) are clearly demonstrated to accomplish the data replacement process [col. 3, lines 21-44].
- a multi-copy error handling mechanism is used to perform data/error detection and retrieval process [col. 9, lines 30-61].
- 128 copies of replacement blocks [col. 13, line 47].

In addition, Shin explicitly disclosed:

- tracking defector sector [storage location], accessing re-allocating sectors, and replacing the defector sector [storage location] within recording medium [col. 7, lines 52 through col. 8, line 8].

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- re-allocation sector [storage location] and replacing defector data via pointer features [col. 7, lines 63 through col. 8, lines 8].

It is clearly to an ordinary skill in the art to realize the combination of both Robinson and Shin do teach Applicant's invention, more specifically regarding the merging storage location [amended limitation] as claimed by Applicant. This is because by performing the replacement data process of Robinson and utilizing the pointing function of Shin, data blocks can easily track, identified, pointed, replaced (i.e., merged) to establish a complete copy data. It further obvious because the computer system must have a clear, precise, error-free and complete data in order to perform data process among computing devices.

Fourth, as indicated in previous office action that it would have been obvious to a person having ordinary skill in the art at the time of Applicant's invention to apply the Shin's method for improving data access operation of a hard disk having tracking defector sector [storage location], accessing re-allocating sectors, and replacing the defector sector [storage

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location] within recording medium capability in **conjunction** with the Robinson's disk mass storage facility in order to enhance performance of the real-time data accessing and data retrieving to and from a disc storage system. One of ordinary skill in the art would have been motivated to do so to improve the data access to and from memory and to ensure data sector(s) [storage location] error detected and corrected within data storage medium. In addition, any error sector occurred in data memory computing system can be identified, detected, corrected via data sector replacement capability in providing data high reliability, availability, and flexibility environment which eventually will increase its performance.

5. Claims 4 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed 09/27/2004 have been fully considered but they are not persuasive.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

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A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu-Minh Le whose telephone number is (571) 272-3660. The examiner can normally be reached on Monday - Thursday from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645.

The Tech Center 2100 phone number is (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DIEU-MINH THAI LE
PRIMARY EXAMINER
ART UNIT 2114

DML

1/19/05